Creation of Knowledge Networks – the Best Practices from Russian Communities of Practice

Natalya Belenkaya
Advisor
State Atomic Energy Corporation ROSATOM

Vienna, IAEA
May 2014
Model of ROSATOM KMS

Operational units of KMS

- Management of expert communities
- Management of scientific and technical content
- Management of IP Rights

Life-cycle of knowledge

- Creation: Employees of ROSATOM and organizations
- Formalization: Information on tangible media (content)
- Identification and protection of IP rights
- Utilization: IP rights

*KMS – Knowledge Management System*
ROSATOM KM Programme

Management of expert communities

- **Project 1:** Corporate network of experts
- **Project 2:** Crowd sourcing technologies
- **Project 3:** Training of KMS experts
- **Project 4:** Preservation of critical knowledge

Management of scientific and technical content

- **Project 1:** Scientific and technical information portal
- **Project 2:** Digitalization center
- **Project 3:** Corporate subscription to scientific and technical content

Management of IP rights

- **Project 1:** Regulatory framework for IP management
- **Project 2:** IT system for IP management
- **Project 3:** Portfolios of technology rights
- **Project 4:** Anti-plagiarism system
Evolution of Web-applications and Tools

**Web 1.0**
1990—2005
Web-content management system (publication systems)

**Web 2.0**
2005—2015
Custom content, services of virtual social networks, collaborative tools.

**Web 3.0**
2015—2025
Semantic networks, virtual reality, unified communications, machine-based content semantic analysis.

Web 2.0 technologies are basic tools for automatization of activities communities of practice.
Development of Basic Principles and Guidelines for Communities

- **Personification** — personification of system users (Non-anonymity).

- **Obligatoriness** — obligatory participation (within job responsibilities) of key members and voluntary participation of other users.

- **Transparency** — open and free communications within a community framework.

- **Responsibility** — personal responsibility for information or content placement.

- **Control** — presence of community coordinator/moderator in the system.

**Availability:**

- Ease of system tools use for major part of users;
- Functioning of the System in onsite ROSATOM Corporate network at start, with further connection of internet-communities

- **Safety** — to ensure information security by technical means
Communities of Practice. Design Principle.

**Sponsor**
Initiate community creation, provide “recognized” status to the community in organization, allocate resources to support activity of communities, provide feedback on key issues and etc.

**Moderator**
Organize and plan community work, creates events, start discussions, assign and track execution of tasks and etc.

**Expert**
Facilitate knowledge exchange, interpret information, answer questions, lead discussions, recommend useful material and publications and etc.

**Community Members**
Participate in community work, collaboratively develop documents, perform tasks, can initiate and participate in discussions, ask questions and etc.

Community of practice/practitioners – group of people, which unites in a framework of common problems and interests in order to exchange knowledge and learn from each other (Wenger, McDermott and Snyder, 2002) **while solving work tasks**
What Members of Communities of Practice Get?

- Strengthen trust relations in professional working environment
- Recognition of individual experience, level of expertise
- Discussion of ideas with colleagues having experience in the same field, getting assessment of idea
- Possibility to get expert advice
- A single information field for all Community Members
- New Knowledge/Ideas/competences exchanged to spent Time
- Immediate assistance in solving emerging issues
What ROSATOM Gets?

**Facilitation of Employees Adaptation and Education:**
- Quick adaptation of new employees into workflow;
- Quick experts search or relevant information for solving work tasks/issues;
- Accelerated training by transferring necessary knowledge, skills, professional secrets from professionals to newcomers, as well as transfer of corporate values and elements of organizational culture.

**Increase Productivity:**
- Preservation of knowledge and information, obtained during implementation of projects or solving work tasks;
- Reducing the cost of communications;
- Strengthening horizontal networks;
- Reduce risk of "double work", "reinventing the wheel", repeating the mistakes due to reuse of existing knowledge.

**Support of Innovations:**
- Discuss new or different point of views, exchange ideas and opinions, in atmosphere of transparency and trust.

**Benefits from System Implementation in ROSATOM**
Communities of practice. Status. Perspectives.

Active Communities of Practice

- Digitalization Centers
- Investment Management Department
- IT Department
- Information Security
- Atomenergo mash
- Scientific and Technical Information Portal
- Scientific and Technical Council
- KMS Unit in Science and Innovations
- Patent Specialists
- Critical Knowledge
- Finances of Science and Innovations

Planned Communities 2014

- Department of Organizational Development
- PRORYV
- Grinatom
- Technical Regulation
- PSR
- Human Resource Department
- Communications Department
- Corporate Academy
- Planned Communities
Communities of Practice. Statistics. Test Operation.

<table>
<thead>
<tr>
<th>Metrics</th>
<th>Value (current)</th>
<th>Value (Previous)</th>
<th>Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total views</td>
<td>1 700</td>
<td>301</td>
<td>464,78%</td>
</tr>
</tbody>
</table>

1 April 2014 - 30 April 2014
CoP Visit Dynamics

Start of Test Operation
1700 visits

301 visits

1 April 2014 - 30 April 2014
CoP Visit Dynamics

100 members

50 000 members

1700 visits

301 visits

1 April 2014 - 30 April 2014
CoP Visit Dynamics

Scientific Division.
ROSATOM Headquarters
10 000 members

All ROSATOM Divisions
10 000 members

2013 - 2015
CoP Connection Dynamics
## Communities of Practice. Tools.

<table>
<thead>
<tr>
<th>Tools/Possibilities</th>
<th>Feature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crowdsourcing</td>
<td>Gathering ideas of employees on the posed issue with possibility of assessment</td>
</tr>
<tr>
<td>Collaborative Work with Documents</td>
<td>Simultaneous work of two and more employees with one document</td>
</tr>
<tr>
<td>Integration into a Work Place</td>
<td>The entire line of Microsoft products (Office, Outlook, Lync) is integrated with CoP</td>
</tr>
<tr>
<td>Library of Documents</td>
<td>All information about work of community is stored in one place</td>
</tr>
<tr>
<td>Involvement/Awareness</td>
<td>Blogging, Wiki creation and maintenance, possibility of commenting and rating.</td>
</tr>
</tbody>
</table>

ROSATOM trains employees on a regular basis in organizations to work in IT System for Communities of Practice
Best Practices

1. Deploy and Configure IT Infrastructure

2. Create Collaborative Environment

3. Choose confident subject-matter experts as community moderators
THANK YOU FOR ATTENTION!